

REMARKS

This application has been carefully reviewed in light of the Office Action dated April 23, 2003 (Paper No. 7). Claims 1 to 35 are in the application, with Claims 1, 10, 18, 25 and 27 being the independent claims. Reconsideration and further examination are respectfully requested.

Claims 27 to 35 have been withdrawn from consideration pursuant to a telephonic restriction requirement. In this regard, Applicant affirms his provisional election to prosecute the Group I claims (Claims 1 to 26). The restriction requirement is, however, traversed.

The restriction requirement is traversed on the grounds that Groups I and II are not related as product and process, as contended in the Office Action. Applicant submits that Claims 27 to 33 of Group II are clearly drawn to a device (an opto-electronic integrated circuit). As set forth at MPEP § 806.05(f), a product defined by the process by which it is made is still a product claim. Accordingly, reconsideration and withdrawal of the restriction requirement with respect to Claims 27 to 33 are respectfully requested.

A Letter Transmitting Formal Drawings accompanies this Amendment, with which two substitute drawing sheets are being submitted. The substitute drawing sheets include changes requested in the Office Action. A reference numeral "2506" for the electrode shown in Figure 15 has been changed to read --2516--, with a corresponding change being made in the specification. In addition, a "Prior Art" legend has been added to Figure 35.

The drawings were objected to for containing reference characters not mentioned in the description. The specification has been amended to include the following reference signs.

with no new matter being added: (1030), (1040), (1742), (1743), (1760), (2401), (2402), (2403), (3604) and (4204). The reference characters (4601), (4602), (4604) to (4606) and (4608) are discussed, *inter alia*, at page 69, lines 16 to 21, of the specification. The reference character (4110) of Figures 27, 32 and 34 is discussed, *inter alia* at page 65, line 12, and page 72, line 3, of the specification.

In view of the foregoing, withdrawal of the drawing objections is respectfully requested.

The specification has been amended to attend to the informalities noted in the Office Action.

Applicant gratefully acknowledges that Claims 18 to 26 have been allowed. These claims have not been amended herein, and thus remain in condition for allowance.

Applicant thanks the Examiner for the indication that Claims 15 and 16 contain allowable subject matter. These claims have not been rewritten in independent form as otherwise suggested in the Office Action, since it is believed that Claim 10, from which they depend, is also in condition for allowance, detailed more fully below.

Claims 1, 5 and 6 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,516,104 (Furuyama). Claims 1 to 4, 8, 10 and 11 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,343,171 (Yoshimura). Claim 9 was rejected under 35 U.S.C. § 103(a) over Furuyama in view of Yoshimura. Claims 7, 12 and 14 were rejected under 35 U.S.C. § 103(a)

over Yoshimura in view of Furuyama.¹ Claims 13 and 17 were rejected under 35 U.S.C. § 103(a) over Yoshimura. In response, the substance of Claim 4 has been incorporated into independent Claims 1 and 10, with Claim 4 being cancelled. This should be viewed as a traversal of the rejection of Claim 4 over Yoshimura. Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention, as recited by amended Claim 1, concerns a semiconductor device having an optical transmission region and a light receiving part for converting light propagating through the optical transmission region to an electrical signal. The optical transmission region includes a two-dimensional waveguide layer, and the light receiving part is embedding in the optical transmission region such that the light receiving part can receive light propagating within a plane of the two-dimensional optical waveguide layer without directivity.

The present invention, as recited by amended Claim 10, concerns an optoelectronic board having at least two layers consisting of a first layer and a second layer. The first layer includes an electronic device, an optical device and an electric wiring for coupling the electric and optical devices; and the second layer includes a two-dimensional optical waveguide. The optical device has a light receiving part for receiving light waveguided through the two-dimensional optical waveguide, and the light receiving part is embedded in the two-dimensional optical waveguide such that the light receiving part can receive light propagating within a plane of the two-dimensional optical waveguide without directivity.

¹ The Office Action does not set forth the rejection of Claim 7. However, in a telephonic interview, the Examiner indicated that Claim 7 would have been rejected under 35 U.S.C. § 103(a) over Yoshimura in view of Furuyama. See Interview Summary dated May 29, 2003.

Thus, according to one feature of the invention as recited by Claims 1 and 10, the light receiving part is embedded in the optical transmission region or in the two-dimensional optical waveguide such that the light receiving part can receive light propagating within a plane of the two-dimensional optical waveguide without directivity.

Yoshimura is not seen to teach or suggest at least the foregoing feature.

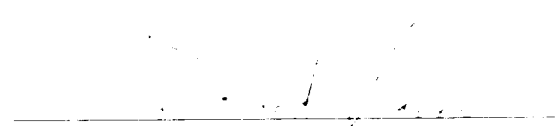
Nowhere does Yoshimura describe that his photodetector device (28c) is capable of receiving light propagating within a plane of the waveguide (24) without directivity.

Applicant therefore concludes that the applied references do not teach or suggest the claimed invention, and it is respectfully requested that the Section 102 and 103 rejections be withdrawn.

No other matters being raised, the entire application is believed to be in condition for allowance and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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